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10/830,216	04/23/2004	Parthasarathy Ranganathan	200400352-1	9361

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EXAMINER	
KOVALICK, VINCENT E	
ART UNIT	**PAPER NUMBER**
2629	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/830,216	RANGANATHAN ET AL.	
	Examiner	Art Unit	
	VINCE E. KOVALICK	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6,12,13,17,18,20-23,26-28 and 31-35* is/are rejected.

7)☒ Claim(s) *3,7-11,14-16,19,24,25,29 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/23/04 & 3/16/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Appeal Brief

1. This Office Action is in response to Applicant's Appeal Brief dated March 6, 2008, in response to USPTO Final Office Action dated November 21, 2007.

The 35 USC - 102 rejection of claims 1-35 as indicated in the USPTO Office action dated November 21, 2007 is herewith withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-2, 4, 6, 12, 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (Pub. No. 2004017894) taken with Shen et al. (USP 6,414,661).

Relative to claims 1 and 26, Miller **teaches** color OLED display system having improved performance (pg 2 paras 0012-0013); Miller further **teaches** a method of optimizing lifetime of a display, the method comprising: determining whether to control at least a portion of a display based on a lifetime metric; identifying a plurality of display control options in response to determining to control the at least a portion of the display; and selecting at least one of the display control options to control the display; wherein determining whether to control the display based on a lifetime metric comprises (pg. 6, paras.0048 and 0049).

Miller **does not teach** a) comparing the lifetime metric to a threshold ; and b) determining to perform the step of identifying a plurality of display control options in response to the lifetime metric exceeding the threshold.
Shen et el. **teaches** a method and apparatus for calibrating display devices and automatically compensating for loss in their efficiently over time (col. 2, lines 59-62 and col. 3, lines 1-67);

Shen et al further **teaches** a) comparing the lifetime metric to a threshold ; and b) determining to perform the step of identifying a plurality of display control options in response to the lifetime metric exceeding the threshold (col. 2, lines 13-23). It being understood that the threshold value would be the correction coefficient that is stored in a memory; and determining to perform the step of identifying a display control option in response to the lifetime metric exceeding the threshold is accomplished with the detection of the non uniformities of the pixels.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Miller the feature as taught Shen et al. in order to put in place the means to adjust an image by comparing a lifetime metric to a threshold.
Relative to claims 2 and 21, Miller further **teaches** the method of implementing the selected display control option to increase a remaining life of the at least a portion of the display ((pg. 6, para 0049)

Regarding claim 4, Shen et al. further **teaches t**he method wherein selecting at least one of the display control options comprises: selecting at least one of the display control options using at least one office usage model and a lifetime a model (col. 2, lines 13-23). In this case it was the selection of the correction coefficient.

As to claim 6, Shen et al. **teaches** the method step wherein selecting at least one of the plurality of display control options comprises: evaluating the plurality of display control options; and selecting the at least one of the plurality of display options based on the evaluation (col. 2, lines 13-23). Shen et al. **teaches** the method step wherein selecting at least one of the

plurality of display control options comprises: evaluating the plurality of display control options; and selecting option of displaying an image with uniform pixel brightness.

Relative to claim 12, Shen et al. **teaches** the method step wherein determining a lifetime metric for at least a portion of the display comprises: determining at least one of past use and predicted future use of the at least a portion of the display (col. 2, liens 13-23). Using the correction coefficient to get a uniform brightness serves both the present and the future; the development of a more precise correction factor could be a future goal.

4. Claims 13, 17, 23 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. take with Shen et al. as applied to claim 1 in item 3 hereinabove, and further in view of Dedene et al. (USP 7,176,861).

Regarding claims 13 and 28, Miller et al. taken with Shen et al. **does not teach** the method step for determining a lifetime metric for at least a portion of the display comprises: using a lifetime model to determine the lifetime metric, wherein the lifetime model includes an estimation of the lifetime of the at least a portion of the display.

Dedene et al. **teaches** pixel structure with optimized subpixel sizes for emissive displays (col. 3, lines 30-67; col. 4, lines 12-67 and col. 5, lines 1-31); Dedene et al. further **teaches teach** the method step for determining a lifetime metric for at least a portion of the display comprises: using a lifetime model to determine the lifetime metric, wherein the lifetime model includes an estimation of the lifetime of the at least a portion of the display (col. 12, lines 11-17 and Fig. 10, item 108).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Miller et al. taken with Shen et al. the feature as taught by Dedene et al in order to put in the means to make adjustments of only a portion of a display pixel array.

As to claims 17 and 23, Dedene et al. further **teaches** the method stem wherein identifying a plurality of display control options comprises: analyzing usage of at least one of the display and one or more displays similar to the display; determining usage patterns from analyzing the usage; and analyzing the usage patterns to determine the plurality of display control options (col. 12, lines 32-36).

5. Claim 18 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. take with Shen et al. as applied to claim 1 in item 3 hereinabove, and further in view of Konishi et al.

Relative to claim 18 Miller et al. taken with Shen et al. **does not teach** the method step wherein the at least a portion of the display comprises at least one of a sub-pixel, a pixel, and a group of pixels in the display.

Konishi et al. **teaches** a flat-type display (pgs. 2-4, paras. 0010-0025); Konishi et al. further teaches the method step wherein the at least a portion of the display comprises at least one of a sub-pixel, a pixel, and a group of pixels in the display (pg. 1, para. 0005).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Miller et al. taken with Shen et al. the feature as taught by Konishi et al. in order to provide a image display device wherein the image is displayed by a pixel structure.

6. Claims 22 and 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. take with Shen et al. as applied to claim 1 in item 3 hereinabove, and further in view of Miller EP (EP 1, 408, 722).

Regarding claims 22 and 27, Miller et al. taken with Shen et al. **does not teach** the apparatus comprising: lifetime model means for estimating a life of the means for displaying.

Miller EP **teaches** a method of making an improved color OLED display device (pg. 2, paras. 0001-0007); Miller EP further **teaches** the apparatus comprising: lifetime model means

for estimating a life of the means for displaying (Abstract)

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Miller et al. taken with Shen et al. the feature as taught by Miller ER in order to put in place means for analytically determining the lifetime of an apparatus.

7. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shen et al. (USP 6,414,661).

Regarding claim 20, Shen et al. **teaches** a method comprising: determining a lifetime metric for at least a portion of a display using a lifetime model; determining whether to control the at least a portion of the display based on the lifetime metric; and identifying at least one display control option using a usage model in response to determining to control the at least a portion of the display (col. 2, lines 13-20).

The difference between the teachings of Shen et al. and that of the instant invention is that Shen et al. deals with only one member of the lifetime metric , the correction coefficient, wherein the instant invention teaches multiple members of a lifetime metric.

8. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dedene et al. (USP 7,176,861).

Relative to claim 35, Dedene et al. **teaches** a computer system comprising: a display in use and operable to display a visual representation of information on the display; a processor operable to determine a plurality of control options for increasing the remaining life of the display, each control option including parameters varying the visual representation of information on the display; and a display controller operable to receive parameters for one of the control options identified by the processor to control the visual representation of information on

the display (col. 18, lines 4-10).

The difference between the teachings of Dedene et al. and that of the instant invention is that the instant invention teaches a plurality of control options, wherein Dedene et al. teaches only the one control option of selecting areas to be operated on.

Allowable Subject Matter

9. Claims 3, 7-11, 14-16, 19, 24-25 and 29-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of

base claim and any intervening claims

Relative to claim 3, the major difference the teachings of the prior art of record (Pub. No. 2004/0178974, Miller et al.; USP 6,414,61, Shen et al. and USP 7,176,861, Dedene et al.) and that of the instant invention is that said prior art of record **does not teach** the method wherein identifying a plurality of display control options comprises: identifying a plurality of display control options using a usage model.

Regarding claim 7, the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach t**he method wherein evaluating the plurality of display control options comprises: identifying a constraint on implementing any one of the plurality of display control options.

Regarding claim 9, the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein evaluating the plurality of display control options comprises: determining a lifetime savings for each of the plurality of the display control options.

Regarding claim 10, the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein evaluating the plurality of display control options comprises: evaluating lifetime metrics and non-lifetime metrics for each of the plurality of display control options; and ranking the plurality of display control options based on the evaluation.

Regarding claim 14, the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein the lifetime model comprises a display degradation curve or another similar estimation of remaining lifetime of the display based on past use of the display.

Regarding claim 15, the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein using a lifetime model to determine the lifetime metric comprises: measuring use of the at least a portion of the display; and applying the measured use to the lifetime model to determine the lifetime metric.

Regarding claim 16 the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein using a lifetime model to determine the lifetime metric comprises: estimating the lifetime costs of applications typically executed on a computer system including the display; determining properties of screen usage for the display, the display displaying information from the applications; estimating the use of the at least a portion of the display based on the estimated lifetime costs and determined properties; and applying the estimated use to the lifetime model to determine the lifetime metric.

Regarding claim 19 the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein the plurality of display control options comprise parameters for displaying information on the at least a portion of the display.

Regarding claim 24 the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein profiling comprises: profiling use by a current use of a display

Regarding claim 25 the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the method wherein profiling comprises: analyzing past use of at least one of the display and the one or more similar displays by a plurality of users.

Regarding claim 29 the major difference the teachings of the said prior art of record and that of the instant invention is that said prior art of record **does not teach** the apparatus comprising: means for evaluating the plurality of display control options using at least one of the lifetime model means and the usage model means; and means for selecting at least one of the plurality of display control options based on the evaluation.

Claim Rejections - 35 USC § 101

10. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Regarding claim 31, said claim teaches "software embedded on a compute readable medium". The specification (pg, 19 lines 17-22) teaches "Examples of computer readable signals, whether modulated using a carrier or not, are signals that a computer system hosting or running the computer program may be configured to access, including signals downloaded through the Internet or other networks. Concrete examples of the foregoing include distribution of the programs on a CD ROM or via Internet download."

When functional descriptive material is recoded on some computer-readable medium, in a computer *or on an electromagnetic carrier signal*, it is not statutory and should e rejected under 35-U.S.C. – 101.

The teachings "computer readable signals, whether modulated using a carrier or not, are signals that a computer system hosting or running the computer program may be configured to access, including singles downloaded through the internet or other networks" as taught in the said specification renders claim 31 and dependent claims 32-34 rejected.

Response to Applicant's Remarks

11. Applicant's remarks regarding claims 1-35 as set forth in Appeal Brief dated March 6, 2008 are rendered moot in light of new prior art introduced in the new Office Action submitted herewith.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,608,845 Ohtsuka et al.

To Respond

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINCE E. KOVALICK whose telephone number is (571)272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Vincent E Kovalick/
Examiner, Art Unit 2629
July 16, 2008

/Bipin Shalwala/

Supervisory Patent Examiner, Art Unit 2629